

SPECIFICATIONS and DETAILS

on the Use and Installation
of

INSULITE

the Wood-Fiber Insulating Board

Lath, Sheathing, Exterior Finish, Interior Finish,
Tile, Fire-Proofed Board, Termite Board,
Acoustile, and for Sound Deadening



BACKUS-BROOKS
INDUSTRIES

THE INSULITE CO.

BUILDERS EXCHANGE
MINNEAPOLIS, MINNESOTA

MILLS AT
INTERNATIONAL FALLS, MINN.
AND KARHULA, FINLAND

OFFICES
IN ALL THE PRINCIPAL
CITIES

THE INSULITE CO.

GENERAL OFFICES

MINNEAPOLIS, MINN.

Branch Offices in All Principal Cities

MILLS: INTERNATIONAL FALLS, MINN. and KARHULA, FINLAND

PRODUCTS

Insulite Lath

Insulite Building
Board

Insulite Interior
Finish

Insulite Tile

Insulite Refrigera-
tor Insulation

Insulite
Cold Storage
Insulation

LOCAL REPRESENTATIVE

PRODUCTS

Insulite Acoustile

Insulite Termite
Board

Insulite Fire-
proofed Board

Insulite Roof
Insulation

Insulite Industrial
Insulation

Insulite Sound
Deadening
Insulation

INSULITE

The Wood-Fiber Insulating Board

THE ORIGINAL WOOD FIBER INSULATING BOARD

Insulite has been made and marketed for over 16 years. Experience gained through constant observation of actual installations of Insulite Products during this period, coupled with exhaustive laboratory research work, assure dependable and comprehensive information on the practical applications of Insulite in its various forms. This background of many years of practical experience offers the ultimate consumer of Insulite Products a service and protection seldom available with other products of similar nature.

MANUFACTURING

A thoroughly modern plant capable of producing an output of 300,000,000 sq. ft. per year assures an ample supply of material at all times. Special machines designed by THE INSULITE CO. Engineering Department are available for the fabrication of special insulation items required in the field. Such machines provide finished insulation units to fit practically any need at exceptionally low cost.

DISTRIBUTION

Insulite Products are distributed nationally through retail lumber dealers who maintain large stocks for immediate delivery. To facilitate shipping and handling without injury, these materials are neatly and securely packaged in strong, easily handled bundles. This service assures delivery to the job in the same condition as when the materials leave the mills.

Insulite Products are carried by dealers throughout the world. A new plant recently completed at Karhula, Finland, assures prompt delivery of fresh dealer stocks at all times.

SERVICE

THE INSULITE CO. maintains at its general office a Service Department personneled with experienced Insulation and Acoustical Engineers and experts. Competent representatives and service men are available in all principal cities. The Company tenders its full co-operation and service facilities to architects in the solution of insulation and acoustical problems.



INSULITE

The Wood-Fiber Insulating Board



PHYSICAL CHARACTERISTICS AND USES

GENERAL

Insulite is made by felting wood fiber into large units of various thicknesses as required for the many Insulite Products. Only firm, clean wood fiber is used in the manufacture of Insulite. Due to the cold grinding process used, Insulite fiber retains the natural light color of fresh wood. This grinding process assures the full strength of the fiber being retained in all Insulite Products. Samples on request.

Low conductivity, low water absorption and high tensile strength, while varying to some degree with different Insulite Products, are characteristic of Insulite in all of its phases.

Insulite is clean and odorless. It will not attract or harbor vermin. It will not rot or mold even under extreme moisture conditions.

Insulite, due to its natural color and pleasing surface texture, is attractive in appearance and lends itself to practically any type of decorative treatment.

INSULITE LATH

Furnished in size of 18 x 48 ins. Thicknesses of $\frac{1}{2}$ in., $\frac{3}{4}$ in. and 1 in. All edges beveled with long edges shiplapped to assure heat sealed joints. Bond of plaster to Insulite Lath by authentic laboratory test is 1152 lbs. per square foot. Tensile strength over 300 lbs. per square inch. Conductivity of 0.33 B.t.u. per hour, per inch thick, per square foot, per degree temperature difference.

INSULITE BUILDING BOARD

Furnished in sizes 4 ft. wide by 6 to 12 ft. long. Thicknesses of $\frac{1}{2}$ in., $\frac{3}{4}$ in. and 1 in. Used as sheathing, exterior and interior finish. Tensile strength over 300 lbs. per square inch. Conductivity of 0.33 B.t.u. per inch thickness per hour.

INSULITE INTERIOR FINISH

Furnished in sizes 4 ft. wide by 6 to 12 ft. long. Thicknesses of $\frac{1}{2}$ in., $\frac{3}{4}$ in. and 1 in. Used for interior wall board finish. Has beautiful sanded surface finish one side and natural burlap texture on other side.

INSULITE TILE

Furnished in one standard size 18 x 32 ins. Thicknesses of $\frac{1}{2}$ in., $\frac{3}{4}$ in. and 1 in. All four edges are beveled with two edges shiplapped to provide heat sealed joints. Surface finish either natural burlap texture or sanded. Special sizes up to 24 x 24 ins. available on special order. Special Tile has four edges beveled but no shiplapped edges.

INSULITE FIRE-PROOFED BOARD

Furnished in sizes 4 ft. wide by 6 to 12 ft. long. Thickness of $\frac{1}{2}$ in. Material is Insulite Building Board covered on both sides with pure asbestos sheets cemented with fireproof cement. Is adaptable to garages, airplane hangars, basements and other places where good fire-resisting qualities together with high insulating efficiency are desirable. Extremely light in weight weighing less than 1000 lbs. per thousand square feet $\frac{1}{2}$ in. thick.

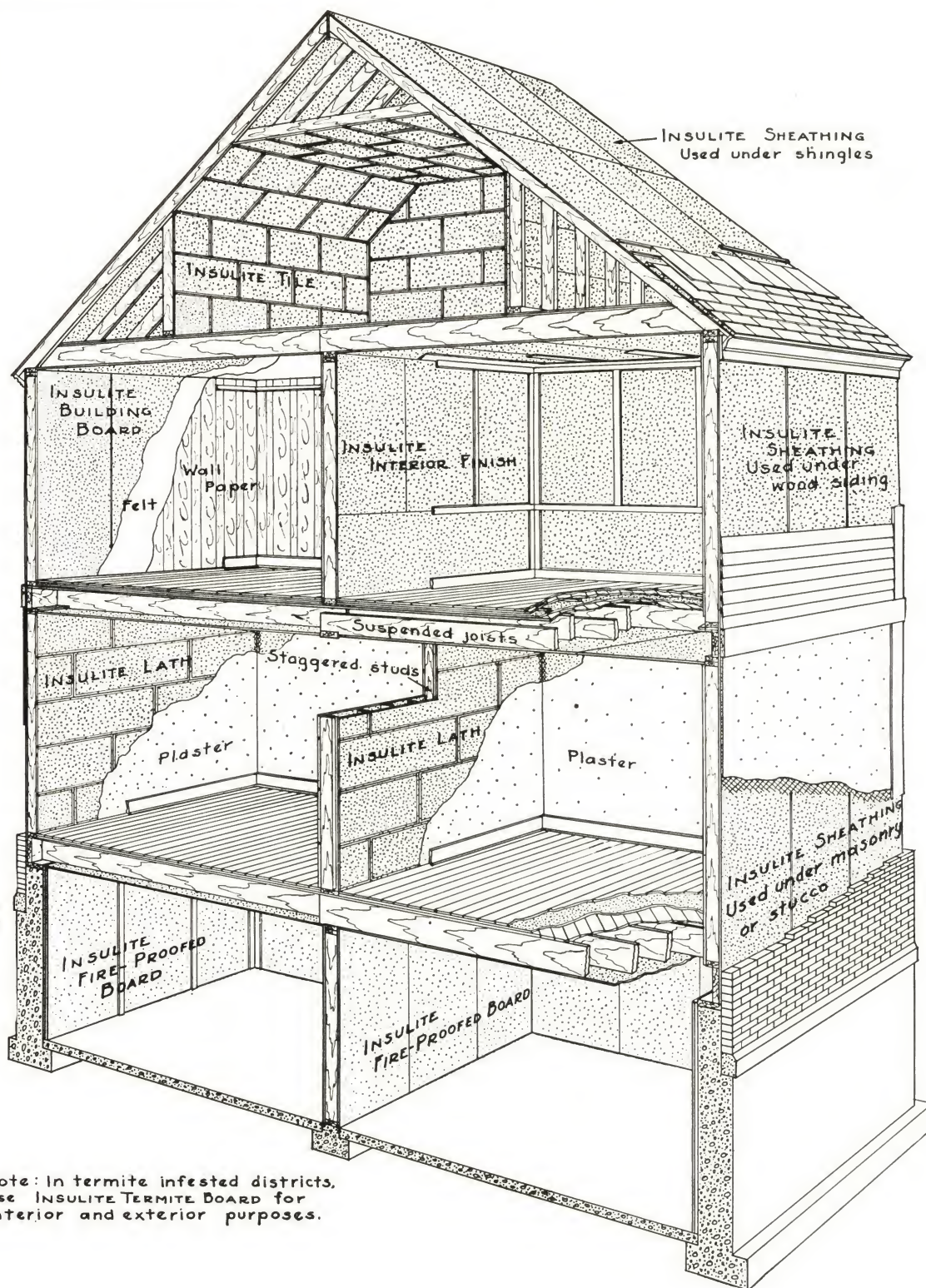
INSULITE TERMITE BOARD

Furnished in sizes 4 ft. wide by 6 to 12 ft. long. Thicknesses of $\frac{1}{2}$ in. and 1 in. Termite Board, while manufactured specifically for use in termite infested districts, is suited for use in any type of construction. It has high tensile strength, low water absorption and a pleasing surface finish. Termite Board is different from usual materials treated for similar uses in that the termite repellent materials used in Termite Board will not evaporate or leech out. This is a necessary characteristic of any product used in termite infested districts where exceptionally high temperatures and humidities prevail.

INSULITE ACOUSTILE

Furnished in two types. Type 37 has a sound absorption co-efficient of 0.37 at 512 d.v. Type 44 has a co-efficient of 0.50 at 512 d.v. Both products have a more uniform sound absorption over entire sound frequency range than any other acoustical material. Acoustile possesses high light reflection qualities. Unbiased laboratory test shows light reflection of 65%.





APPLICATION DETAIL OF INSULITE

INSULITE LATH

Insulite Lath is manufactured in units 18 x 48 ins. Full $\frac{1}{2}$ in., $\frac{3}{4}$ in. and 1 in. thick with beveled edges. Long edges are shiplapped.

Application—Apply Insulite Lath to studs, joists or rafters spaced 12 or 16 ins. on centers. End joints shall center on frame members and be broken or staggered. *Space units $\frac{1}{4}$ in. apart at all ends.*

Nailing—Nail $\frac{1}{2}$ -in. Lath with 4d galvanized, coated or blued box nails. Nail $\frac{3}{4}$ -in. and 1-in. Lath with 6d galvanized, coated or blued box nails. Nails shall be spaced not more than $5\frac{1}{2}$ ins. on centers. First nail to intermediate framing, then at ends. Cover all exterior angles with standard type of corner bead. Cover all interior angles with metal lath reinforcing strips.

NOTE—Do not apply Insulite Lath with large headed nails.

Grounds—On frame exterior walls provide $\frac{3}{8}$ -in. grounds over Insulite Lath. On other surfaces provide $\frac{1}{2}$ -in. grounds.

NOTE—On ceiling areas it is advisable to apply one or more strips of metal or wire lath over Insulite Lath to act as grounds and assure uniform thickness of plaster.

Plastering—Apply gypsum cement or gypsum wood fiber plaster in accordance with manufacturer's specifications. While plaster is drying adequate ventilation must be provided as moisture cannot pass through Insulite Lath.

NOTE—Do not wet Insulite Lath before plastering.

INSULITE BUILDING BOARD

Insulite Building Board is manufactured in sheets 4 ft. wide and from 6 to 12 ft. long. Thicknesses are $\frac{1}{2}$ in., $\frac{3}{4}$ in. and 1 in.

USED AS SHEATHING

Application—Apply Insulite Building Board lengthwise to frame members spaced 12 or 16 ins. on centers. *Space units $\frac{1}{4}$ in. apart at all edges and ends.*

Nailing—Nail $\frac{1}{2}$ -in. and $\frac{3}{4}$ -in. Building Board to frame with $1\frac{1}{2}$ -in. galvanized roofing nails spaced $4\frac{1}{2}$ ins. on centers. For 1-in. Building Board nail with 2-in. galvanized roofing nails. Nail to intermediate frame members first, then nail edges and ends.

Wood Siding—Apply wood siding directly over Insulite, nailing through to frame. All siding joints shall butt over studs.

Stucco—Over Insulite Building Board apply self-furring wire or metal lath nailing through to frame with approved staple or nail of sufficient length to penetrate frame members not less than 1 in. Apply stucco in accordance with manufacturer's specifications. *Do not stucco on Insulite without metal or wire lath reinforcing.*

Brick Veneer—Nail brick ties through Insulite to studs. Lay up brick in usual manner allowing $\frac{1}{2}$ -in. space between Insulite and brick.

Shingles—Apply wood strips over Insulite at right angles to frame members. Space strips to fit shingle exposure.

USED AS EXTERIOR FINISH

Application—Apply Insulite lengthwise to frame members spaced 12 or 16 ins. on centers. *Space units $\frac{1}{4}$ in. apart at all edges and ends.*

Nailing—First nail to intermediate studs with 6d coated box nails spaced 12 ins. on centers. Then nail edges and ends of the $\frac{1}{2}$ -in. and $\frac{3}{4}$ -in. board with $1\frac{1}{2}$ -in. galvanized roofing nails. Nail 1-in. Insulite with 2-in. nails.

Painting—Size Insulite with casein glue size or other suitable water or oil size. Allow sizing coat to dry thoroughly and apply one coat of exterior house paint. Apply wood trim and batten strips over all joints, nailing through Insulite to frame. Trim and battens to be drawn up tightly to Insulite. Apply two coats good grade exterior house paint over Insulite and trim.



INSULITE BUILDING BOARD

USED AS INTERIOR FINISH

Application—Apply burlap finished side exposed to studs, joists or rafters spaced 12 or 16 ins. on centers. *Space units $\frac{1}{4}$ in. apart at all edges and ends.* Place wood headers at ends of units.

Nailing—First nail to intermediate frame members with 2-in. finishing nails, 6 ins. on centers, driven at an angle and set slightly below the surface of board. For the $\frac{1}{2}$ -in. thick board nail edges of units with 4d coated box nails spaced 6 ins. on centers. For the $\frac{3}{4}$ -in. and 1-in. thick board nail edges and ends of units with 6d coated box nails set 6 ins. on centers. When plastic finishes are to be used nail $\frac{1}{2}$ -in. board to intermediate bearings with 4d coated box nails and nail $\frac{3}{4}$ -in. and 1-in. board to intermediate bearings with 6d coated box nails.

Painting—Size Insulite with glue size or other suitable water or oil size. Allow sizing to thoroughly dry and then apply finishing paints, lacquers or enamels. If plastic finish is to be used treat joints and apply plastic in accordance with manufacturer's specifications.

NOTE—*Joint fillers are not recommended unless properly reinforced.*

Paneling—Apply wood or Insulite strips over joints and elsewhere as needed to create desired effect. Nail through Insulite to frame drawing strips tightly against the Insulite.

Wall Paper—Apply $1\frac{1}{2}$ -lb. dry building felt directly to Insulite using wall paper paste. Butt edges of felt and roll firmly in place. Apply paper to felt in customary manner.

INSULITE INTERIOR FINISH

Insulite Interior Finish is manufactured in panels 4 ft. wide and from 6 to 12 ft. long. Thicknesses are $\frac{1}{2}$ in. $\frac{3}{4}$ in. and 1 in. Panels are surfaced with beautiful sanded finish.

Application, Nailing, Painting, Paneling and application of wall paper, same as specified for the use of Insulite Building Board as interior finish.

It is recommended, however, that Insulite Interior Finish be left unpainted to obtain full decorative effects afforded by the sanded surface finish of this product.

INSULITE TILE

Insulite Tile is manufactured in one standard size—18 x 32 in. Thicknesses are $\frac{1}{2}$ and $\frac{3}{4}$ in. Long edges of Tile are shiplapped and all edges are beveled. Special sizes up to 24 x 24 ins. without shiplapped edges can be furnished on special order.

Application—On frame construction apply Insulite Tile to studs or joists spaced 16 ins. on centers. *For special tile, frame members must be set to fit dimensions of tile.* When Tile is to be applied directly over plastered surfaces it must be cemented to plaster with good grade of waterproof cement.

Nailing—On frame construction nail Tile with 2-in. finishing nails $5\frac{1}{2}$ ins. on centers. Nail to intermediate bearings first, then nail ends. For ap-

plications over plaster use brads of proper length to penetrate into the plaster to provide sufficient holding power to allow cement to set. *Drive all nails or brads carefully to avoid hammer marks on surface of tile.*

Painting—As specified for Insulite Interior Finish.

Staining—Water, alcohol, or benzine stains may be applied directly over Tile.



INSULITE
The Wood-Other Insulating Board



INSULITE FIRE-PROOFED BOARD

*Insulite Fire-Proofed Board is manufactured in panels 4 ft. wide and from 6 to 12 ft. long.
Thickness $\frac{1}{2}$ in.*

Application—Remove loose fibers or sawdust from edges of board. Apply lengthwise to frame members placed 12 or 16 ins. on centers. Apply first board in corner of room. Nail with 4d blued, coated or galvanized box nails. Nail to intermediate bearings first, then edges, nails to be placed not more than 6 ins. on centers. Fit joint between second board and first board carefully. Apply Insulite Fireproof cement to the contacting edges of the board. Apply second board pressing edges firmly together and nail as above. Sink nails $\frac{1}{16}$ in. below surface of boards. Remove excess cement protruding from joints. Where units meet on exterior corners, cut edges at an angle of 45° to insure close fitting mitred joint. Cement and nail as above. Where edge of

unit meets the face of an adjoining unit as in a corner, apply cement only to edge of board.

Painting—Size surface with casein or other dependable glue size. After size is dry fill nail holes and any openings between joints with plaster of paris freshly mixed. Allow plaster of paris to dry and sand to smooth finish. If oil paint is to be used apply second coat of size. If water paints are used second coat of size may be eliminated. Allow size to thoroughly dry and apply oil paint or other desired finish.

Wall Paper—Size surface of board with casein or other dependable glue size. Fill nailholes and any opening between joints as above. Sand joints and apply wall paper in regular manner.

INSULITE TERMITE BOARD

*Insulite Termite Board is manufactured in panels 4 ft. wide and from 6 to 12 ft. long.
Thickness $\frac{1}{2}$ in.*

USED AS SHEATHING

Application, Nailing, use Under Wood Siding, Brick Veneer, Stucco, and Shingles same as specified for Insulite Building Board.

In termite infested districts all wood framing to which Termite Board is secured shall be termite-proofed.

USED AS INTERIOR FINISH

Application, Nailing, Painting and Application of Wall Paper same as specified for Insulite Building Board used as interior finish.

Paneling—Apply Insulite Termite Board strips over all joints and elsewhere as needed to create desired effect. If wood strips are used, same shall be termite proofed.

USED AS EXTERIOR FINISH

Application, Nailing, and Painting same as specified for Insulite Building Board used for exterior finish.

Paneling—Apply Insulite Termite Board strips over all joints and elsewhere as needed to create desired effect. If wood strips are used, same shall be termite proofed.

GENERAL

While Insulite Termite Board was conceived mainly for use in termite infested districts, it can be used to advantage in any class of building construction. This product with its exceptionally high waterproof qualities is recommended for use on jobs where high humidities and excessive moisture conditions are liable to be encountered.

The pleasing color of Termite Board lends itself to practically any type of interior finish. For this reason it is not necessary to paint Termite Board unless specific colors other than the natural color of the board are desired.

In termite infested districts secure Termite Board to termite proofed wood frame members.



INSULITE
The Wood-Fiber Insulating Board



INSULITE ROOF INSULATION

Insulite Roof Insulation is manufactured in sizes 18 x 36 ins. and 24 x 60 ins. Standard thicknesses are 1/2 in. and 1 in. The 1-in. material has offset edges on all four sides to provide heat-sealed joints. Thicknesses up to 4 ins. are available on special order.

APPLICATION OVER WOOD DECKS

Sweep deck clear of rubbish and see that all nails are driven flush. Deck must be dry and smooth. Apply Insulite Roof Insulation staggering end joints. Edges and ends of each unit shall be butted together *but not forced into place*. Apply cant strips over Insulite at parapets and fire walls.

Nail 1/2-in. Insulite with 1-in. roofing nails and 1-in. Insulite with 1 1/2-in. roofing nails. Nail center of units first, then edges and ends.

Amount of Insulite laid shall not be more than can be covered and protected by roofing laid in any one day. Roofing shall be applied in accordance with manufacturer's specifications.

APPLICATION OVER CONCRETE AND TILE DECKS

Sweep deck clear of rubbish and see that it is dry and smooth. Concrete decks shall be troweled to sidewalk finish. On unit tile decks joints are to be pointed up in accordance with manufacturer's specifications to provide a smooth surface for Insulite Roof Insulation.

If asphalt is used concrete or tile deck must be primed. Mop deck with hot pitch or asphalt using not less than 35 lbs. per hundred square feet.

Embed Insulite firmly in place while pitch or asphalt is hot. End joints to be staggered and units butted together *but not forced in place*.

NOTE—On unit tile decks mopping of pitch or asphalt must be kept back 3 ins. from joints.

Amount of Insulite laid shall not be more than can be covered with roofing laid in one day. Apply roofing in accordance with manufacturer's specifications.

APPLICATION OVER STEEL DECKS

The steel roof sheets shall be installed in accordance with manufacturer's specifications. All joints must be tight to prevent leakage of asphalt through steel deck.

Mop deck with hot asphalt and embed Insulite Roof Insulation firmly in place while asphalt is hot. *Do not use pitch to apply Insulite to steel decks.* Use not less than 30 lbs. of asphalt per hundred square feet. End joints to be staggered and units

to be butted together *but not forced in place*.

On roof surfaces having a pitch of 3 ins. in 12 ins. or greater, mop deck with hot asphalt, embed Insulite firmly in place, and then secure Insulite to steel deck with screws or with special nails supplied by roof deck manufacturer. Amount of Insulite laid shall not be more than can be covered with roofing laid in one day. Apply roofing per manufacturer's specifications.

GENERAL

In some instances where roof decks are subjected to high humidities, it is advisable to apply one or two felts directly over deck surface before applying Insulite Roof Insulation. Felts to be mopped solidly to concrete, tile or steel decks. On wood decks nail first felt to deck with roofing nails and mop second felt firmly to first felt. Then apply Insulite Roof Insulation as specified above.

During winter months when applying Insulite over concrete deck, it is advisable to apply at least one felt over deck mopping thoroughly in place. Then apply Insulite as above.

When more than one layer of Insulite is to be used apply second layer over first with pitch or asphalt, breaking all joints between layers.



INSULITE
The Wood-Fiber Insulating Board



INSULITE FOR SOUND DEADENING

As the use of Insulite for sound deadening purposes involves the use of one or more Insulite Products it is not possible to list a special Insulite Product for this type of construction. Effective sound deadening can only be obtained by proper construction as well as good sound deadening insulating materials.

SOUND DEADENING OF FLOORS

All floor constructions for sound deadening purposes must provide an average reduction of not less than 50 decibels (or more) for air-borne sounds. For impact sounds construction must provide a reduction of not less than 30 decibels (or more).

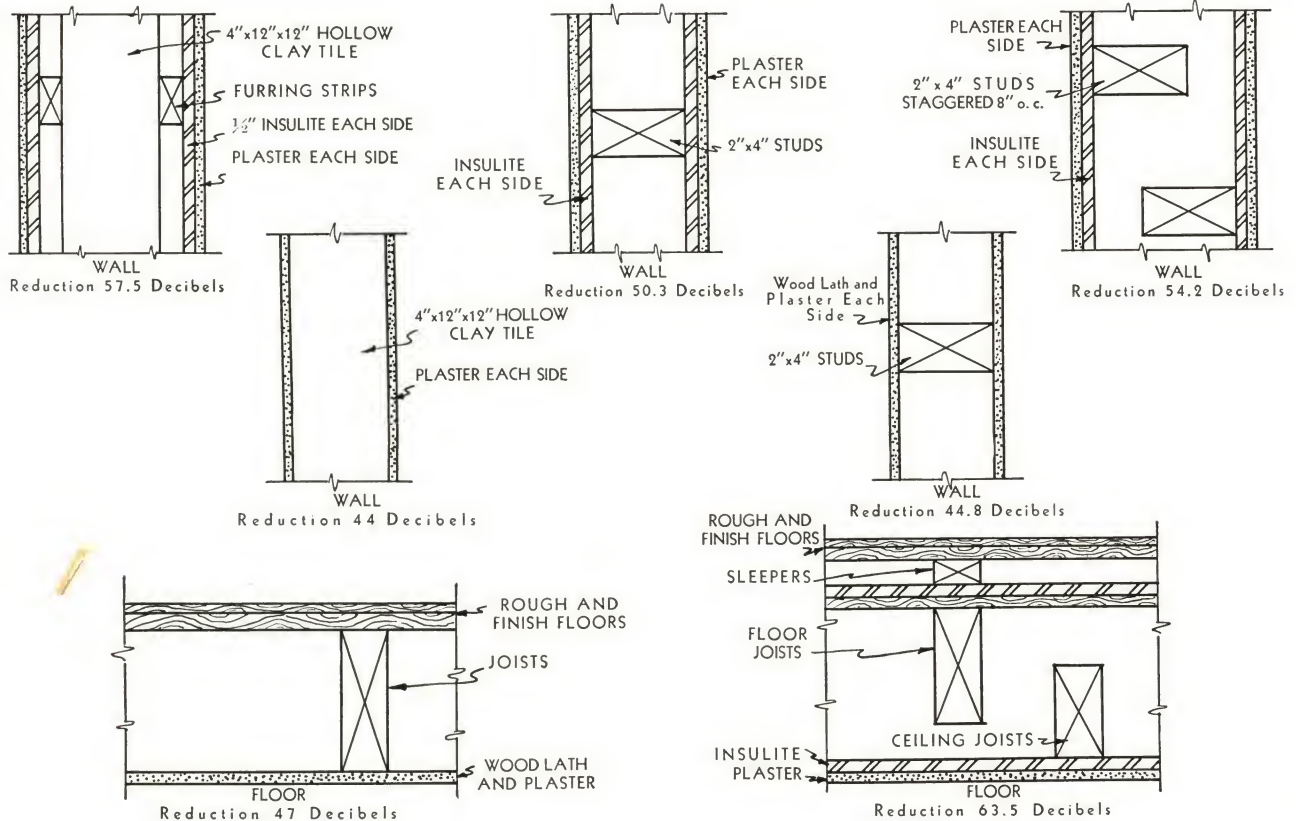
Efficiency of construction to be based on U. S. Bureau of Standards method of test. Insulite and sound deadening construction to be applied in strict accordance with THE INSULITE CO.'S specifications.

SOUND DEADENING OF PARTITIONS

All partition constructions for sound deadening purposes must provide an average reduction of not less than 50 decibels (or more) for air-borne sounds.

Efficiency of construction to be based on U. S. Bureau of Standards method of test. Apply Insulite and partition construction in strict accordance with THE INSULITE CO.'S specifications.

Details shown below illustrate several types of Wall and Floor Constructions that have been tested by the U. S. Bureau of Standards. Sound reduction factors for each are given. Comparison of results clearly indicates that careful attention to design can provide proper sound deadening at moderate cost.



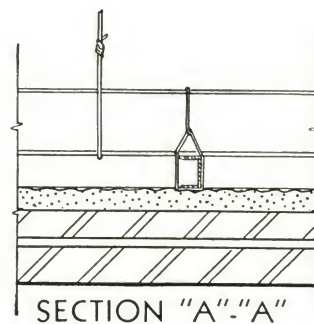
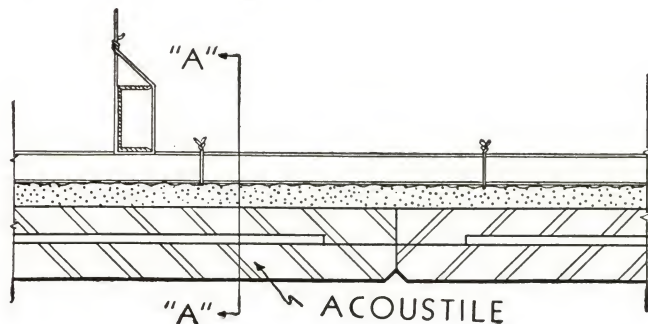
INSULITE ACOUSTILE

Insulite Acoustile is manufactured in sizes up to 24 x 24 ins. Edges of units are beveled. Material is available in two types—No. 37 being $\frac{3}{4}$ in. thick; No. 44 being $1\frac{3}{8}$ in. thick.

APPLICATION TO PLASTERED SURFACES

When applied to plastered surfaces, Insulite Acoustile is to be cemented with an approved brand of acoustical cement, each tile to be nailed with brads, one in each corner of each tile (see detail). For Type 37 Acoustile, a $1\frac{1}{4}$ -in. brad is

to be used, and for Type 44 Acoustile, a 2-in. brad is to be used. Plaster must be smooth and firm. On new work, the putty coat may be omitted providing brown coat is finished under float to an even surface.

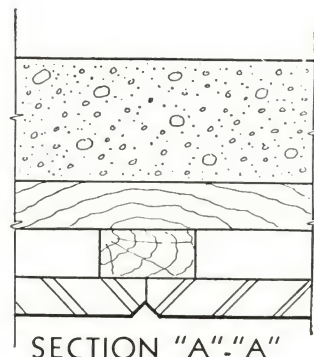
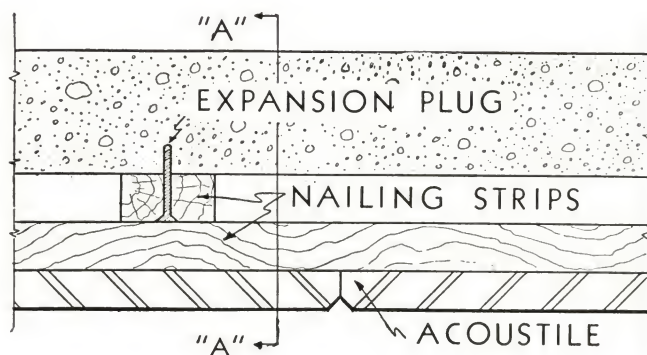


Type 44 ACOUSTILE APPLIED ON SUSPENDED METAL LATH CEILING

APPLICATION TO WOOD STRIPS

For this type of application, the Insulite Acoustile is to be applied on wood nailing strips spaced 12 ins. on centers or in accordance with requirements of the design. Apply with brads or finishing nails placed not more than 6 ins. on centers. Nails to be driven through Acoustile at an angle to hold tile securely in place. Where furring strips are to be applied over concrete or brick surfaces, furring strips should first be applied and spaced 3 ft. on

centers. These strips are to be attached to the brick or concrete with plugs or expansion bolts. On new construction, clips or grounds may be placed in forms before pouring concrete. After first set of furring strips are in place apply 1 x 2-in. strips over and at right angles to first furring nailing securely in place. Place 12 ins. on centers or to fit requirements of design.



Type 37 ACOUSTILE APPLIED ON CONCRETE CEILING



INSULITE
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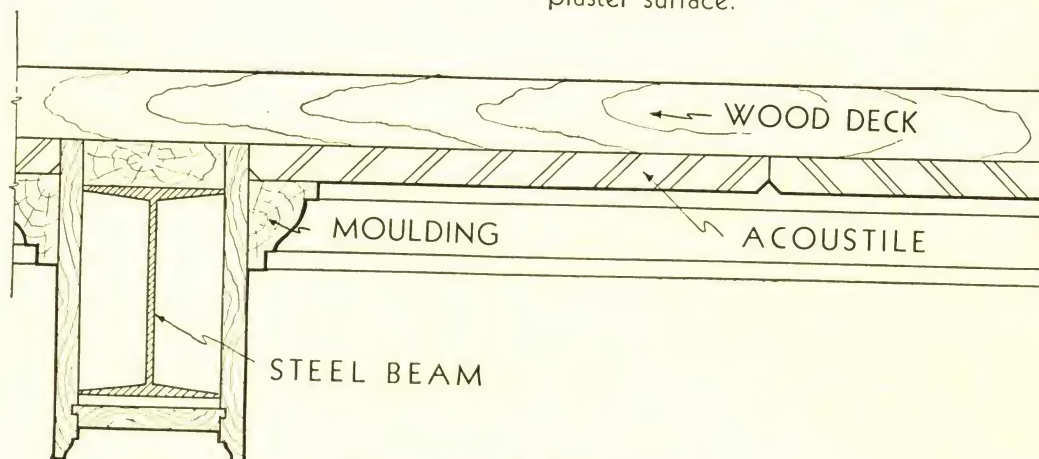


INSULITE ACOUSTILE

APPLICATION TO WOOD SURFACES

In many churches and auditoriums of other types the underside of the plant roof is left exposed.

In such cases apply Insulite Acoustile directly to wood surface and fasten in place as specified for plaster surface.



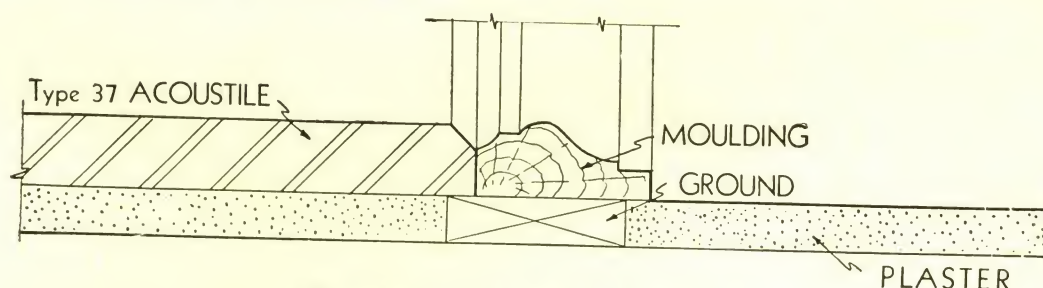
Type 37 ACOUSTILE

APPLIED ON WOOD DECK

APPLICATION TO WALL OR CEILING PANELS

In many cases the area over which Insulite Acoustile is to be applied is less than the total wall or ceiling area. In such cases apply Acoustile in panels, the plastering contractor to furnish and install grounds at panel edges to which finish mould-

ings will be nailed after Acoustile has been applied (see detail). Mouldings to be furnished and installed by the acoustical contractor. Mouldings to be designed in keeping with interior finish trim.



CROSS SECTION THROUGH PANEL MOULDING

APPLICATION TO CURVED SURFACES

When Insulite Acoustile is to be applied to curved surfaces, as in the case of a dome, barrel vault or arches, the proper size of Acoustile may

be chosen to conform with the curved surface. For surfaces with small radius of curvature, score back side of tiles to provide easy forming.

PAINTING

Insulite Acoustile may be decorated in a wide range of either solid colors or stencil designs. For this purpose water, alcohol or benzol stains may be used.

In special instances lead and oil paint may be used.

Consult Insulite Acoustile contractors for complete painting specifications.



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